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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,455	09/30/2003	Keisuke Nishida	Q77769	2011
23373	7590	09/28/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			NGUYEN, THINH H	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/673,455	Applicant(s) NISHIDA ET AL.	
	Examiner Thinh H. Nguyen	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 2-10 and 13-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/23/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The claim is objected to because the words are crowded too closely together, making reading difficult (claim 12). Substitute claims with words spacing are required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 11-12 are rejected under 35 U.S.C. § 102(b) as being anticipated by Araki. (U.S.6,312,077)

Re claims 1 and 2, with reference to figs.7, 8; example 2; beginning col.13, in particular, Araki discloses the instant claimed liquid ejecting apparatus and its respective controller comprising:

a pressure-generating chamber (11; fig.1) having an inside space whose volume is changeable, into which a liquid is supplied and which is communicated with a nozzle, a resonance frequency of said pressure-generating chamber having a period or T_c , a signal-generating unit (20; col.9, lines 53-64) that generates a driving signal including: a first signal- element (shown in fig.8b) for causing the pressure-generating chamber to expand, a second signal-element (shown in figs.8c, 8d) for causing the

pressure-generating chamber to contract from an expanding state thereof in order to eject a drop of the liquid through the nozzle, and a third signal-element (shown in figs.8e, 8f, 8g) for causing the pressure-generating chamber to expand to an original state before outputting the first signal-element after the drop of the liquid is ejected, and

a pressure-generating unit (15) that causes the pressure-generating chamber to expand and contract, based on the driving signal, wherein the third signal-element includes:

a first-step element (shown in fig.8e) for causing the pressure-generating chamber to expand to an intermediate contracting state, which is smaller than the original state before outputting the first signal-element, and

a second-step element (shown in fig.8f) for causing the pressure-generating chamber of the intermediate contracting state to the original state before outputting the first signal-element, and the first-step element and the second-step element are substantially discontinuous in at least one of applying time or inclination. (see graph segments corresponding to time (T5); and

Re claim 11, wherein the pressure-generating unit has a longitudinal-mode piezoelectric vibrating member. (see col.20, lines 8-16)

Allowable Subject Matter

4. Claims 2-10, 13-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Pertinent Prior art

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,453,767 to Chang et al.

Patent Application Information Retrieval (PAIR)

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Contact Information

7. Any inquiry concerning this communication should be directed to examiner Thinh Nguyen at telephone number (571) 272-2257. The examiner can generally be reached Mon-Wed, and Thurs from 9:00A – 5:00P. The official fax phone number for the organization is (571) 273-8300. The examiner supervisor, Dave Talbott, can also be reached at (571) 272-1934.

Art Unit: 2861

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1782.



Thinh Nguyen

September 26, 2005

Thinh Nguyen
Primary Examiner
Technology Center 2800